

中文題目:糖尿病衛教對第二型糖尿病患者5年中過年前後血糖控制的影響
英文題目:Long-Term Glycemic Control after 5 years of Health Education on Glycemic Control during Holiday Time in Type 2 Diabetic Patients

作者:陳芳瑜¹, 陳涵栩^{1,2}

服務單位:¹台北榮民總醫院新陳代謝科、²陽明醫學大學

OBJECTIVE—

Many type 2 diabetes mellitus patients lose their glycemic control gradually over years. Our previous study demonstrated that poor glycemic control of type 2 diabetes mellitus patients was related with winter holidays and this poor glycemic control may not be reversed in the coming month. However, it is not well known whether the effects of annual regular, professional health education before, during and after the Chinese New Year could improve glycemic control during winter holidays.

RESEARCH DESIGN AND METHODS—

To estimate the variation of glycemic control and its relationship to holiday times, we conducted a randomized controlled trial, which we randomly assigned subjects to program 1, which subjects received regular diabetes education started between October 20 and November 25, 2005, and then every 3-4 months for 5 years or program 2, which subjects did not receive diabetes education. Glycemic control was measured in four times annually in intervals of 4-6 weeks for total 5 years and presented as preholiday and post holiday period. Glycemic control was presented as annually preholiday and postholiday A1C level and A1C change.

RESULTS—

A total of 110 subjects with type 2 DM were recruited for the study, and 89 patients were available for completing data (80%). Baseline characteristic showed no significance over group 1 and group 2 on age, body height, body weight, duration, systolic blood pressure, diastolic blood pressure, triglycerides, fasting plasma glucose, A1C, total cholesterol, high-density lipoprotein, creatinine, urea acid, urine albumin, urine creatinine, alanine aminotransferase, which revealed this study has no population selection bias and was a randomized distribution. We also measured mean fasting glucose change over 5 years of our patients over group 1 and group 2. In program 1, glucose data was significantly higher than program 2 in 2004, November (182.69 vs 166.50, $p=0.039$), 2005, January (187.10 vs 160.63, $p=0.006$), 2005, February (199.91 vs 168.27, $p=0.003$) and 3rd year post holiday (167.81 vs 152.22, $p=0.032$). In most of 5 years follow up data, mean fasting glucose level in program 1 increased without significantly more than those in program 2. We also performed pair-t test over fasting plasma glucose over 5 years post-holiday with pre-holiday data which revealed

significant increased on the fourth year in program 1 and significant decreased on the fifth year of program 2.

The mean post-holiday A1C level was significantly higher than preholiday data in program 1 (8.6 VS 8.18%; $p=0.039$) under the performance of pair t-test during the second year followed and all other 4 years, the mean post-holiday A1C level was higher than preholiday data without significance under the performance of pair t-test. Similarly, the mean post-holiday A1C level was significantly higher than preholiday data in program 2 (8.19 VS 7.74%; $p=0.012$) under the performance of pair t-test during the third year followed. Interestingly, in the first two years, mean post-holiday A1C level was even lower than preholiday A1C data which quite opposite to our previous study, it may be a coincidence and without health education in program 2, poor A1C control revealed in the following 3 years followed up. In most of the 5 years follow up blood sugar data, mean A1C level in program 1 was higher than those in program 2, without significance. However, there was a propensity of deteriorated blood sugar control in the first two years and improvement blood sugar control in both groups since third year to the end of the following year, representing as difference of post holiday A1C level and preholiday A1C level. What is worth mentioned, according to our data, although both increased A1C noted in 5 years post-holiday, the effects of health education resulted in slowing the deteriorated blood sugar control and fasting the improvement of blood sugar in objects of program 1 than program 2, which revealed health education may be an effective way in glucose control if it proceed more than three years. In our previous study, health education was not conducted and blood sugar control did not improved by the following months, which may enlight us the important of health education.

CONCLUSIONS—

Regular annual diabetes education for holidays does not improve glycemic control of type 2 diabetes mellitus patients. However, the diabetes education may still has the potential of being helpful of blood sugar control of type 2 diabetes mellitus patient if persistent, long time, planned, comprehensive diabetes education of more than three years is achieved.